

[4910-13-P]

### DEPARTMENT OF TRANSPORTATION

**Federal Aviation Administration** 

**14 CFR Part 39** 

[Docket No. FAA-2012-0817; Directorate Identifier 99-NE-24-AD]

RIN 2120-AA64

Airworthiness Directives; General Electric Company Turbofan Engines

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) that applies to certain General Electric Company (GE) CF6-80C2 series turbofan engines. The existing AD requires replacement of the fuel tubes connected to the fuel flowmeter. Since we issued that AD, we received several additional reports of fuel leaks and two reports of engine fire due to mis-assembled supporting brackets on the fuel tube connecting the flowmeter to the Integrated Drive Generator (IDG) fuel-oil cooler. This proposed AD would require installing a new simplified one-piece bracket to eliminate mis-assembly. We are proposing this AD to prevent high-pressure fuel leaks caused by improper seating of fuel tube flanges, which could result in an engine fire and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal Rulemaking Portal: Go to <a href="http://www.regulations.gov">http://www.regulations.gov</a>. Follow the instructions for submitting comments.
  - Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact General Electric Company, GE-Aviation, Room 285, 1 Neumann Way, Cincinnati, OH 45215, phone: (513) 552-3272; e-mail: geae.aoc@ge.com. You may review copies of the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <a href="http://www.regulations.gov">http://www.regulations.gov</a>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Jason Yang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7747; fax: 781-238-7199; e-mail: jason.yang@faa.gov.

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section.

Include "Docket No. FAA-2012-0817; Directorate Identifier 99-NE-24-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <a href="http://www.regulations.gov">http://www.regulations.gov</a>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

#### **Discussion**

On February 17, 2000, we issued AD 2000-04-14, Amendment 39-11597 (65 FR 10698, February 29, 2000), for all GE CF6-80C2 series turbofan engines. That AD requires replacement of the fuel tube connecting the fuel flowmeter to the IDG fuel-oil cooler and the fuel tubes connecting the fuel flowmeter to the Main Engine Control (MEC) or Hydromechanical Unit (HMU) with improved fuel tubes. That AD resulted from reports of fuel leaking in the core cowl cavity under high pressure that can be ignited by contact with hot engine case surfaces. We issued that AD to prevent high-pressure fuel leaks caused by improper seating of fuel tube flanges, which could result in an engine fire and damage to the airplane.

### **Actions Since Existing AD Was Issued**

Since we issued AD 2000-04-14, Amendment 39-11597 (65 FR 10698, February 29, 2000), we received several reports of fuel leaks and two reports of engine fire due to mis-assembled supporting brackets on the fuel tube connecting the fuel flowmeter to the IDG fuel-oil cooler. Investigation of these two fires determined the root cause was due to a design shortfall, which allowed improper installation of the two-piece bracket and subsequent fuel leaks from the fuel tube connection.

#### FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **Proposed AD Requirements**

This proposed AD would require replacement of the fuel tube connecting the fuel flowmeter to the IDG fuel-oil cooler and the fuel tubes connecting the fuel flowmeter to the MEC or HMU with improved fuel tubes. This proposed AD would also require installing a simplified one-piece bracket to eliminate mis-assembly when the fuel tubes connecting the fuel flowmeter to the IDG fuel-oil cooler are disconnected.

# **Costs of Compliance**

We estimate that this proposed AD would affect 2,300 CF6-80C2 engines installed on airplanes of U.S. registry. We also estimate that one work-hour would be required per engine to accomplish the actions required by this AD. The average labor rate is \$85 per work-hour. We also estimate that the required parts will cost about \$180 per engine. Based on these figures, we estimate the total cost of the proposed AD to U.S. operators is \$609,500.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
  - (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### § 39.13 [Amended]

2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2000-04-14, Amendment 39-11597 (65 FR 10698, February 29, 2000), and adding the following new AD:

**General Electric Company:** Docket No. FAA-2012-0817; Directorate Identifier 99-NE-24-AD.

## (a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

### (b) Affected ADs

This AD supersedes AD 2000-04-14, Amendment 39-11597 (65 FR 10698, February 29, 2000).

### (c) Applicability

This AD applies to all General Electric Company (GE) CF6-80C2 A1/A2/A3/A5/A8/A5F/B1/B2/B4/B6/B1F/B2F/B4F/B6F/B7F/D1F turbofan engines with fuel tubes, part number (P/N) 1321M42G01, 1334M88G01, 1374M30G01 or 1383M12G01, or supporting bracket, P/N 1321M88P001A, installed.

### (d) Unsafe Condition

This AD was prompted by several reports of fuel leaks and two reports of fire due to mis-assembled supporting brackets on the fuel tube connecting the fuel flowmeter to the Integrated Drive Generator (IDG) fuel-oil cooler. We are issuing this AD to prevent high-pressure fuel leaks caused by improper seating of fuel tube flanges, which could result in an engine fire and damage to the airplane.

# (e) Compliance

Unless already done, do the following.

## (f) Replacement

After the effective date of this AD, if the fuel tubes are disconnected for any reason, or at the next engine shop visit, whichever occurs first, replace the fuel tubes and brackets with improved tubes and brackets eligible for installation. Do the following:

- (1) Replace the fuel flowmeter to IDG fuel-oil cooler fuel tube, P/N 1321M42G01, with a part eligible for installation.
- (2) For engines with Power Management Controls, replace the Main Engine Control (MEC) to fuel flowmeter fuel tube, P/N 1334M88G01, and bolts, P/N MS9557-12, with a part eligible for installation.
- (3) For engines with Full Authority Digital Electronic Controls, replace the Hydromechanical Unit (HMU) to fuel flowmeter fuel tubes, P/Ns 1383M12G01 and 1374M30G01, with a part eligible for installation.
- (4) Replace supporting bracket, P/N 1321M88P001A, and spray shields, P/Ns 1606M57G01 and 1775M61G01, with one-piece supporting bracket, P/N 2021M83G01.
- (5) Perform an idle leak check after accomplishing paragraphs (f)(1), (f)(2), (f)(3) or (f)(4), or any combination thereof.

### (g) Definition

For the purpose of this AD, an engine shop visit is defined as the induction of an engine into the shop for any reason.

## (h) Prohibition

After the effective date of this AD, do not install any of the following parts into any GE CF6-80C2 series turbofan engines: P/Ns 1321M42G01, 1321M88P001A, 1334M88G01, 1374M30G01, 1383M12G01, 1606M57G01, 1775M61G01, and MS9557-12.

### (i) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

# (j) Related Information

For more information about this AD, contact Jason Yang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7747; fax: 781-238-7199; e-mail: jason.yang@faa.gov.

Issued in Burlington, Massachusetts, on July 31, 2012.

Diane Cook, Acting Manager, Engine & Propeller Directorate, Aircraft Certification Service.

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